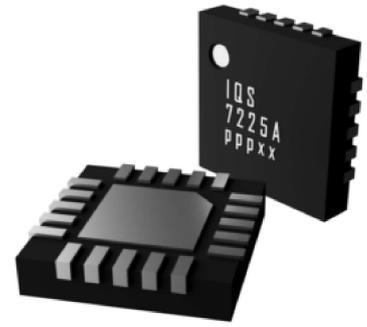


IQS7225A

The IQS7225A ProxFusion® IC is a sensor fusion device that is mainly aimed at inductive sensing applications that require relative rotational inductive sensing and/or multiple inductive buttons. The device also has capacitive sensing capabilities that can be used to complement the inductive sensing applications, e.g. a capacitive wakeup channel. The sensor is fully I2C compatible and on-chip calculations enable the IC to respond effectively even in its lowest power modes.



OVERVIEW

PRODUCT INFORMATION NOTICE

Main Features

- Highly flexible ProxFusion® device
- 9 (QFN) external sensor pad connections
- Configure up to 6 channels using the external connections
- External inductive sensor options:
 - Up to 6x self-capacitive buttons
 - Up to 6x mutual-capacitive buttons
 - Up to 6x inductive buttons
- Built-in basic functions:
 - Gray-coded relative rotational encoder
 - Selectable channel reference
 - LTA as reference
 - select channel to use as reference
 - Fixed value as reference
 - Blocking channel
 - Automatic Tuning Implementation (ATI)
 - Noise filtering
 - Debounce & hysteresis
 - Dual direction trigger indication
- Built-in signal processing options:
 - Rotational encoder angle
 - Rotational encoder counter
 - Rotational encoder state

- PC software for debugging and obtaining optimal settings and performance
- Auto-run from programmed settings for simplified integration
- Multi-level trigger implementation:
 - Adjustable number of trigger levels
 - Trigger event states
- Design simplicity
- Automated system power modes for optimal response vs consumption
- I2C communication interface with IRQ/RDY (up to fast plus – 1 MHz)
- I2C address selection using GPIO pin
- Event and streaming modes
- Customizable user interface due to programmable memory
- Supply voltage range:
 - 1.8 V to 3.5V (FOSC = 14 MHz)
 - 2.2 V to 3.5V (FOSC = 18 MHz)
- Small packages
 - QFN20 (3 x 3 x 0.5 mm) – 0.4mm pitch

Applications

- Waterproof inductive dial/counter applications
- Waterproof inductive buttons
- Integrated control panel (dial + buttons)
- White goods user interface
- Wearables
- Smart home controllers